STATE OF UTAH
DEPARTMENT OF PUBLIC SAFETY

OFFICIAL VEHICLE SAFETY INSPECTION MANUAL FOR MOTORCYCLES 2007

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Scott T. Duncan
COMMISSIONER

Col. Lance Davenport
SUPERINTENDENT

Lt. Bruce Pollei
COMMANDER

Sergeant Joseph Vasquez
PROGRAM MANAGER

EFFECTIVE JANUARY 1, 2007

UTAH HIGHWAY PATROL
VEHICLE SAFETY SECTION

5500 West Amelia Earhart Dr.
Admiral Byrd Plaza, Suite #360
Salt Lake City, Utah 84116
Office: 801-965-4889 Option #1
Utah Interactive Customer Support Line: 801-983-0275
FAX: 801-322-1817
http://safetyinspections.utah.gov

INTRODUCTION

The Utah Highway Patrol-Vehicle Safety Inspection office has compiled this manual from many different sources.

- The American Association of Motor Vehicle Administrators (AAMVA)
- Vehicle Inspection Subcommittee of the American Automobile Manufacturers Association (AAMA)
- National Transportation Safety Administration (NHTSA), provides information relating to various FMVSS standards that can be found at this website www.nhtsa.gov .
- The Utah State Criminal and Traffic Code
- Federal Motor Vehicle Safety Standards (FMVSS)
- Commercial Vehicle Safety Alliance (CVSA), and the Code of Federal Regulations (CFR's).
- In addition, the Safety Inspection office is advise by the Motor Vehicle Safety Inspection Advisory Council on the adoption and implementation of Safety Inspection Standards.

This manual contains minimum standards relating to motor vehicle safety. It is expected that individual inspectors, inspection managers, fleet inspection stations and public inspection stations involved with the Safety Inspection program be familiar with this manual. Every effort has been made to provide specific inspection recommendations and procedures that will allow for the safe operation of motor vehicles on Utah's highways. Please visit our website at http://safetyinspections.utah.gov .

The Safety Inspection staff is committed to the safety of the motoring public. We recognize that those involved with the Safety Inspection Program are also concerned with vehicle safety.

- This revised manual has changes that place more responsibility on owners for repairs of non-safety critical items.
- Many of these changes reflect the same requirements as the commercial motor vehicle industry.

In addition to changes to the manual, Safety Inspection is reviewing its operating policies and procedures. Utah law requires the Safety Inspection office to "investigate complaints" and to protect consumers from "unwanted or unneeded repairs or adjustments", 53-8-204 UCA. To protect the integrity of the Safety Inspection program, those who violate these provisions will be dealt with both civilly and criminally.

Safety Inspection encourages all those who participate in this program to become familiar with these rules. This program is only successful with the cooperation and determination of the many stations and inspectors found throughout the state. Safety Inspection looks forward to any comments, concerns or questions that may arise in carrying out our objective of safer vehicles for Utah's highways.

This Manual supersedes all previous manuals and shall be used in determining the pass/fail condition of vehicle equipment.

Table of Contents

***** All changes from the 2006 Manual to the 2007 Manual have been underlined and highlighted for your convenience. *****

REQUIRED EQUIPMENT LIST

A. Motorcycle Requirements:

1. Current Safety Inspection Manual
2. Headlight Aiming Device (machine, optical, or screen)
3. Hand tools (wrenches, screwdrivers, ratchets, etc.)
4. Disc Pad Brake Gauge
5. Riveted Brake Gauge (interchangeable with tire tread depth gauge)
6. Rotor Thickness Gauge
7. Tire Tread Depth Gauge (interchangeable with riveted brake gauge)
8. Tire Pressure Gauge

B. Tools can be purchased from any company that manufactures these types of tools.

SECTION 1 - REGISTRATION

The first step in the inspection of a vehicle is a review of the registration papers. Vehicles with out-of-state registration or vehicles with no registration can be inspected. These requirements apply to passenger cars, light trucks, motorcycles, heavy trucks, trailers, and buses.

A. AGREEMENT AMONG PAPERS

1. Check vehicle registration certificate, identification number on vehicle, license plate and vehicle description for agreement. Record the manufacturers VIN and license plate number on the safety inspection certificate.

   a. **ADVISE** when:

      1) Paperwork disagreements are accidental and clerical in nature.

   b. **REJECT** when:

      1) Registration certificate, identification number, license plate and vehicle description are not in agreement.

NOTE: Verification of VIN is required on all inspections.

B. PLATE MOUNTING

1. If the vehicle is registered, inspect the license plates to see that they are securely mounted and clearly visible.

   a. **ADVISE** when:

      1) Plates are not securely fastened, obscured or cannot be clearly identified.

      2) Plates have tinted or colored covers. License plates must be displayed horizontally to be read from left to right and visible from 100 feet. (UCA 41-1a-403 and 41-1a-404)

NOTE: Motorcycles are issued one license plate only, which is required to be displayed on the rear of the motorcycle.

SECTION 2 - TIRES AND WHEELS

A. WHEELS

1. Check wheel bolts.

   a. **REJECT** when:

      1) Wheel bolts or nuts are loose, missing or damaged.

2. Check wheels for damage.

   a. **REJECT** when:

      1) Any part of the wheel is bent, out of round, cracked, re-welded or if any spokes are missing, loose or broken.

      2) Wheel is not centered on the axle or wobbles in excess of 3/16 inch.

3. Check bearings by grasping the tire at the top and bottom and rocking it in and out.

   a. **REJECT** when:

      1) Wheel bearing play exceeds the manufacturer's recommended tolerances.

B. TIRES

1. Check tread depth.

   a. **REJECT** when:

      1) Any tread wear indicator contacts the road.

      2) The tread depth is less than 2/32 inch measured in any two adjacent tread grooves.

***NOTE: Tread depth shall not be measured on wear bars.**

SECTION 2 - TIRES AND WHEELS - Continued

2. Check tire condition.

   a. **REJECT** when:

      1) A tire has any damage, including cuts and weather cracks, when cords are exposed.

3. Check for bumps, bulges or knots.

   a. **REJECT** when:

      1**)** A tire has visible bumps, bulges, or knots indicating partial failure or separation of the tire.

4. Check for re-grooved, re-cut or "not for highway" use tire.

   a. **REJECT** when:

      1) A tire has been re-grooved, re-cut, or is marked “NOT FOR HIGHWAY USE”.

5. Check valve stems.

   a. **REJECT** when:

      1) Rubber stems are cracked or cut and if metal stem lock nut is missing.

6. Check tire pressure with tire pressure gauge.

   a. **REJECT** when:

      1) Tires are flat, have noticeable air leak, or are inflated to less than half (50%) of the vehicle manufacturer’s recommended tire pressure.

SECTION 3 - STEERING

A. STEERING HEAD INSPECTION

1. Check the steering head bearing and front forks.

   a. **REJECT** when:

      1) The steering head bearing adjustment does not meet the manufacturer's recommended torque value maximum for turning.

      2) There is detectable play or roughness within the steering head bearings.

      3) Front forks do not fully turn from center to one side or the other, under its own weight, when turned five (5) degrees from a straight ahead position.

B. WHEEL ALIGNMENT LONGITUDINAL INSPECTION

1. Check the rear wheel centerline.

   a. **REJECT** when:

      1) The rear wheel does not track within one half (1/2) inch of the front wheel.

C. HANDLEBAR INSPECTION

1. Check the handlebar for proper construction.

   a. **REJECT** when:

      1) Cracks, deformation or improper alignment is found.

      2) If handlebars move up and down.

      3) If handlebars are above the shoulder height of the driver. (41-6a-1504)

      4) If throttle grip is broken or missing.

NOTE: The handlebar must be constructed of at least .060 inch thick metal tubing.

STEERING Continued

D. FRONT FORKS INSPECTION

1. Inspect front forks for looseness, binding and leakage.

    a. **REJECT** when:

        1) Forks are loose, or there is evidence of binding or leakage.

SECTION 4 - BRAKES

A. MECHANICAL BRAKE SYSTEM

1. When a motorcycle is equipped with both front and rear brakes, there must be adequate braking at both wheels.

   a. **REJECT** when:

      1) Either brake fails to produce adequate braking.

2. Check hand levers and foot pedals.

   a. **REJECT** when:

      1) Lever is broken or sufficient leverage cannot be applied.

      2) Lever or pedal is improperly positioned, misaligned or does not return freely.

      3) Brake lever does not have at least 1/3 travel reserve when brakes are applied.

      4) Modifications make lever or pedal inaccessible for adequate leverage and safe operation.

      5) Lever or pedal is rusted, frozen or inoperative.

3. Check the adjusters, actuating cam, cam shaft, anchor pins, springs and linkage for wear and looseness.

   a. **REJECT** when:

      1) Brake adjusters are unable to be locked.

      2) Brake adjustment changes when the fork is extended.

      3) Brake adjustment is not within OEM specifications.

      4) The cam-operating lever has been repositioned on the shaft to avoid replacing a worn cam, worn shoes or worn lining.

      5) There is friction in linkage or components.

      6) There is wear in the cam or if springs are not strong enough to return and hold shoes against cam.

      7) Any brake component is missing or broken.

BRAKES - CONTINUED

4. Check springs, cables, cotter pins, devices, couplings and grease retainers.

    a. **REJECT** when:

        1) Cables are frayed, broken, or pinched during normal operation.

        2) Cotter pins are missing or broken.

        3) Cables are rusted or frozen.

        4) Grease retainers are leaking.

B. HYDRAULIC BRAKE SYSTEM

1. Check hydraulic hoses and tubing for leaks, cracks, chafing, flattened or restricted sections.

    a. **REJECT** when:

        1) Hoses or tubing leak.

        2) Hoses are cracked or chafed exposing metal or fabric cord.

        3) Hoses are flattened or restricted.

        4) Hoses and tubes are not securely fastened.

        5) The master cylinder leaks or the fluid level is lower than the manufacturer specifications.

        6) Leakage is noted anywhere in the braking system or wheel cylinder.

BRAKES - CONTINUED

C. LINING AND PADS

1. Check linings for contamination and wear.

   a. **REJECT** when:

      1) Linings are contaminated with oil, grease or brake fluid.

      2) The thinnest point of the lining measures less than 2/32 inch.

      3) Arrow indicator is past the last mark on the wear indicating plate. (See ***NOTE** below)

NOTE: *On motorcycles with an enclosed rear drum, check the wear indicator or adjustment indicator arrows. Disassembly is not required.

NOTE: *Once a brake lining has been contaminated, replacement is required.

D. BRAKE DRUMS

1. Check for external cracks, mechanical damage or wear beyond manufacturers specifications.

   a. **REJECT** when:

      1) There are external cracks or evidence of mechanical damage.

      2) Brake drum is worn beyond the manufacturer's specifications.

E. BRAKE ROTOR

1. Check rotors and friction surface for mechanical damage or contamination and wear beyond manufacturers specifications.

   a. **REJECT** when:

      1) A crack extends to the edge of rotor or there is evidence of mechanical damage.

      2) The friction surface is contaminated.

      3) The rotor is worn beyond manufacturer's specifications.

SECTION 5 – LIGHTING

A. HEADLAMPS

1. Check for proper headlamp equipment and proper functioning.

    a. **REJECT** when:

        1) Headlamp is not marked USDOT approved (unless vintage motorcycle prior to USDOT markings).

        2) Headlamp minimum height is less than 24 inches or more than 54 inches above the road surface.

        3) The high beam indicator fails to function when equipped.

        4) Headlamp fails to light, or headlamp switch fails to function.

        5) Passing lights function with high beam headlights

NOTE:** ***One headlamp is required and not more than two lamps are permitted. Pulsating headlights, if USDOT approved, are legal both day and night.

B. HEADLAMP AIMING

1. Headlamps-High and Low Beams. Headlamps must be checked using mechanical aimers, an aiming screen or an optical aiming device.

NOTE:** ***Vehicle must be tested on a level surface. Always adjust lights to a setting of 0-0 when using a mechanical aimer.

2. Check headlamps by attaching mechanical aimer to lamps and take readings. (Limits are in inches at 25 feet)

    a. **REJECT** when:

        1) Horizontal aim is more than:

            a) 4 inches to the LEFT or RIGHT of center line.

LIGHTING - CONTINUED

2) Vertical aim is:

a) Higher than 4 inches UP or 4 inches DOWN

NOTE: A mechanical aimer should be used according to the manufacturer's instructions and must be calibrated to the slope of the floor on which the vehicle stands. Headlamp aiming by the screen method requires a level area in a darkened location, sufficient for the vehicle and an additional 25 feet from lamps to screen.

3. The vehicle MUST be positioned properly in front of the screen. (Limits are in inches at 25 feet.)

a. **REJECT** when:

1) Low and/or high beam are out of adjustment.

C. TURN SIGNALS

1. Check turn signal operation for proper functioning.

a. **REJECT** when:

1) Turn signals are missing when required. (After January 1, 1973)

2) Turn signals fail to function properly.

3) Turn signal lamps do not indicate amber to the front and red or amber to the rear.

NOTE: When a motorcycle is originally equipped with turn signals, they must be present and function as designed by OEM.

NOTE: All motorcycles manufactured after January 1, 1973 must be equipped with turn signals (49 CFR 571.108), (UCA 41-6a-160i(c)).

LIGHTING - CONTINUED

D. STOP LAMPS

1. Check for stop lamp.

    a. **REJECT** when:

        1) Stop lamp fails to operate when brakes are applied.

        2) Stop lamp is not red in color.

NOTE: As of January 1, 1969 the stop lamp must operate with the front brake application and separately with the application of the rear brake.

NOTE: Some vintage motorcycles were not manufactured with handlebar actuated brake lights, and should not be REJECTED.

E. TAIL LAMPS

1. Check for tail lamp.

    a. **REJECT** when:

        1) At least one red tail lamp is not present. The lamp must be visible from 1,000 feet.

F. REAR REFLECTOR

1. Check for rear reflector.

    a. **REJECT** when:

        1) Reflectors are missing or are not red in color.

NOTE: When one reflector is used, it must be mounted at the rear centerline. If two reflectors are used, they must be evenly spaced about the rear centerline. Reflectors must be red in color.

G. DRIVING LIGHTS

1. Check for driving light operation.

    a. **REJECT** when:

        1. Headlamps or driving lamps are not properly aimed.

SECTION 6 – ELECTRICAL SYSTEM

A. HORN

1. Check for proper operation of horn.

    a. **REJECT** when:

        1) Horn is missing, loose, fails to function or is not electrical.

        2) The horn button is not easily accessible.

        3) The horn is not audible for at least 200 feet.

B. SWITCHES

1. Check for proper functioning of switches.

    a. **REJECT** when:

        1) Any required switch is broken, missing or fails to function properly. (Required switches include headlight high/low, engine kill, turn signal and brake light.)

C. WIRING INSPECTION

1. Check the condition of the wiring.

    a. **REJECT** when:

        1) Insulation is worn, bare wires are exposed, or shows evidence of short circuiting and/or is inadequate to operate items properly.

D. CONNECTION INSPECTION

1. Check for loose connections and proper functioning.

    a. **REJECT** when:

        1) Connections are loose, corroded or fail to function properly.

SECTION 7 - WINDSHIELD

A windshield is NOT required. However, if there is one present, check the following:

A. WINDSHIELD

1. Check windshield, if equipped, for cracks, scratches, discoloration, obstruction, light transmittance and for approved type of windshield.

    a. **REJECT** when:

        1) Vision is obstructed due to cracks, scratches or discoloration.

        2) Windshield is not an approved type.

        3) Stiffener device is mounted in the line of vision.

        4) There is less than 70% light transmittance.

SECTION 8 – FRAME AND BODY

A. FRAME

1. Check frame for welds, cracks or structural damage.

    a. **REJECT** when:

        1) There are welds, cracks, or structural damage that constitutes a hazard.

B. FENDER

1. Check fenders for proper mounting, cracks, breaks, bends and sharp edges.

    a. **REJECT** when:

        1) Fenders are missing, improperly mounted, cracked, bent or have sharp edges.

NOTE:** **The front fender must cover 45 degrees to the front and 45 degrees to the rear. The rear fender must cover the top half of the tire.

C. CHAIN AND SPROCKET

1. Check chain, sprocket or belt protective guards for proper operation.

    a. **ADVISE** when:

        1) Chain or belt guard is missing, broken or cracked.

    b. **REJECT** when:

        1) Chain is worn.

        2) Sprocket is worn.

        3) Belt drive or drive belt is worn beyond manufacturer's specifications.

FRAME AND BODY - Continued

D. SEAT

1. Check seat for proper attachment.

    a. **REJECT** when:

        1) Seat is not properly and securely attached. Locking device must function properly.

2. Check seat area for hand hold on seats designed for two people.

    a. **REJECT** when:

        1) A hand hold is not present.

NOTE: When a seat is designed for two people, a properly attached hand hold device of sufficient strength and size must be provided to adequately support 200 pounds. (A stay strap or bar is acceptable.)

3. Check foot rests on motorcycles that have seats designed for two people.

    a. **REJECT** when:

        1) Foot rests are not present.

NOTE: If a motorcycle is capable of carrying two people it must be equipped with a foot rest on each side where the passenger can safely rest his/her feet.

E. ENGINE MOUNTING

1. Check frame and mounting brackets on engine.

    a. **REJECT** when:

        1) Engine mounting frame or brackets are cracked or broken.

FRAME AND BODY- (Continued)

F. STAND

1. Check motorcycle stand for proper operation.

   a. **REJECT** when:

      1) Stand fails to hold the motorcycle in an up-right position.

      2) Stand fails to stay in the stored position. Wire or other methods to hold position are not permitted.

      3) The side or center stand is cracked, broken or loose.

G. MIRRORS

1. Check the left side mirror (UCA 41-6a-1627)

   a. **REJECT** when:

      1) Missing left side mirror.

      2) Mirror is broken, cracked, or otherwise damaged to the point rearward vision is obscured.

SECTION 9 - SUSPENSION

A. SWING ARM BUSHING

1. Check swing arm bushing. Suspension should be adjusted according to the manufacturer's tolerances.

    a. **REJECT** when:

        1) Swing arm bushing is worn beyond manufacturer's recommended specifications.

SECTION 10 - EXHAUST SYSTEM

A. EXHAUST SYSTEM

1. Check exhaust system for proper operation and excessive noise.

   a. **ADVISE** when:

      1) Joints are loose, broken or if any leakage exists.

   b. **REJECT** when:

      1) Components are not properly mounted or supporting brackets are not secure.

      2) Muffler has been removed or is not functioning properly.

      3) Any muffler cutout or bypass is used.

      4) The exhaust system has been changed, or modified, and is not as effective as OEM specifications.

***NOTE: After Market Muffler Devices:**

(UCA 41-6a-1626) Every motor vehicle shall at all times be equipped with a muffler or other effective noise suppression system in good working order and in constant operation.

SECTION 11 – FUEL SYSTEM

All motor fuel cells must be U.S. Department of Transportation approved.

A. FUEL SYSTEM

1. Check the fuel system for securement and for any leaks.
2. Check that the gas tank meets OEM specifications.
3. Check that gas tank is properly capped.

   a. **REJECT** when:

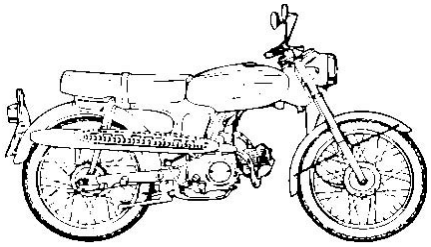
      1) Any part of the fuel system is not securely fastened.

      2) There is leakage at any point in the fuel system.

      3) The gas tank is not properly capped or does not meet OEM specifications.

SECTION 12 – TW0 WHEEL DIRT BIKES

TWO WHEEL DIRT BIKES



A. Two Wheel Dirt Bikes

1. Two wheel dirt bikes may be inspected provided that they have been modified to be street legal. They shall be equipped with the following items, which shall comply with the regulations of the department (UCA 41-6a-1506).

    a. One head lamp which, when factory equipped with an automatic lighting ignition system, shall not be disconnected.

    b. One tail lamp.

    c. Either a tail lamp or a separate lamp which shall be so constructed and placed as to illuminate with a white light the rear registration plate.

    d. One red reflector on the rear, either as part of the tail lamp or separately.

    e. One stop lamp.

    f. A braking system, other than a parking brake, as provided in UCA 41-6a-1623.

    g. A horn or warning device in accordance with UCA 41-6a-1625.

    h. A muffler and emission control system in accordance with UCA 41-6a-1626.

    i. A mirror in accordance with UCA 41-6a-1627.

TW0 WHEEL DIRT BIKES - Continued

j. Tires must be highway approved in accordance with UCA 41-6a-1636.

k. Non-metal gas tanks are acceptable.

l. Working odometers, although not a safety inspection requirement, are nevertheless required on all vehicles in order to be registered in the state of Utah.

m. Equipped with turn signals if manufactured after January 1, 1973 (49 CFR 571.108), (UCA 41-6a-1601(c)).

a) **REJECT** when:

1) Any of the above requirements are not met.

NOTE: All Terrain Vehicles, (ATV's) and Off-Highway Vehicles, (OHV's) are not Certified, nor can they qualify for use on a public highway. DO NOT inspect ATV's or OHV's.

NOTE: Low Speed Vehicles (LSV's) must meet 49 CFR 571.500 and be inspected following the guidelines outlined in the Passenger Vehicle/Light Truck Manual.

NOTE: A mini-motorcycle cannot be safety inspected or registered in the state of Utah. (DO NOT INSPECT MINI-MOTORCYCLES. THEY ARE NOT DESIGNED FOR HIGHWAY USE.)

DO NOT INSPECT ATV's

Index By Subject